

WO 01/21656 A3

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
29 March 2001 (29.03.2001)

PCT

(10) International Publication Number
WO 01/21656 A3(51) International Patent Classification⁷: **C07K 14/32.**
19/00, 14/25, A61K 39/07, 48/00, 39/108

[US/US]; 17100 Dowling Street, #201, Gaithersburg, MD 20877 (US). HANSEN-BIRKEDAL, Henning [DK/US]; 2 West Drive, Bethesda, MD 20814 (US). BUGGE, Thomas [DK/US]; 9802 Bristol Square Lane, #302, Bethesda, MD 20814 (US).

(21) International Application Number: PCT/US00/26192
(22) International Filing Date:
22 September 2000 (22.09.2000)

(74) Agents: PARENT, Annette, S. et al.; Townsend and Townsend and Crew LLP, 8th floor, Two Embarcadero Center, San Francisco, CA 94111-3834 (US).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/155.961 24 September 1999 (24.09.1999) US

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(71) Applicant (for all designated States except US): THE GOVERNMENT OF THE UNITED STATES OF AMERICA, as represented by THE SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES [US/US]; Office of Technology Transfer, 6011 Executive Boulevard, Suite 325, Rockville, MD 20852-3804 (US).

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

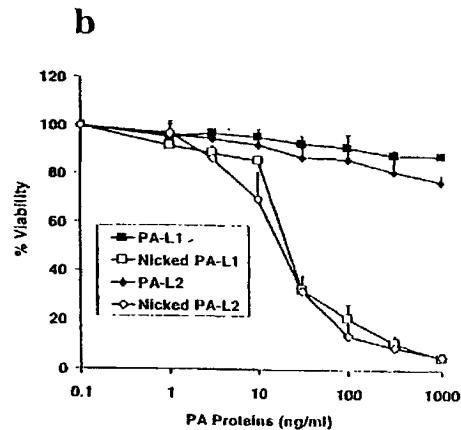
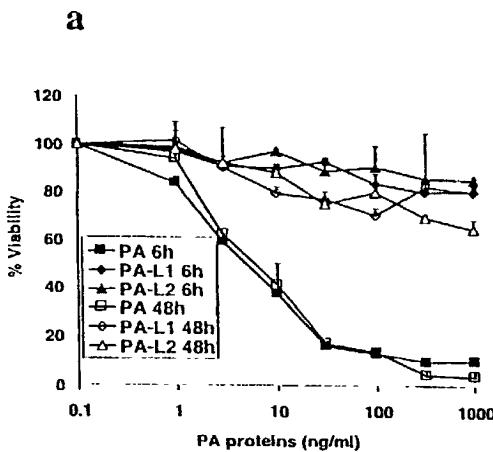
Published:

(75) Inventors/Applicants (for US only): LEPPALA, Stephen, H. [US/US]; 9501 Starmont Road, Bethesda, MD 20817 (US). LIU, Shi-Hui [CN/US]; 1001 Rockville Pike #1822, Rockville, MD 20852 (US). NETZEL-ARNETT, Sarah

— with international search report

[Continued on next page]

(54) Title: MUTATED ANTHRAX TOXIN PROTECTIVE ANTIGEN PROTEINS THAT SPECIFICALLY TARGET CELLS CONTAINING HIGH AMOUNTS OF CELL-SURFACE METALLOPROTEINASES OR PLASMINOGEN ACTIVATOR RECEPTORS



(57) Abstract: The present invention provides methods of specifically targeting compounds to cells overexpressing matrix metalloproteinases, plasminogen activators, or plasminogen activator receptors, by administering a compound and a mutant protective antigen comprising a matrix metalloproteinase or a plasminogen activator-recognized cleavage site in place of the native protective antigen furin-recognized cleavage site, wherein the mutant protective antigen is cleaved by a matrix metalloproteinase or a plasminogen activator overexpressed by the cell, thereby translocating into the cell a compound comprising a lethal factor polypeptide comprising a protective antigen binding site.